

Substitute Abstract

Please cancel the Abstract provided by amendment December 19, 2005, and substitute the following therefore:

A closed-loop system and process is used for applying fire retardant chemicals to fibers. Fibers are preferably positioned in a vessel such as a dye machine which circulates the fire retardant chemicals. After absorption of the fire retardant composition, non-absorbed fire retardant chemicals are recovered and re-used on subsequent batches of fibers. Recovery can be achieved by directing the non-absorbed fire retardant composition into a second dye machine containing additional fibers, or by extracting the fire retardant composition by centrifugation or other means, or by a combination of the two processes. The process is environmentally friendly, and allows for higher throughput on impregnating fibers with fire retardant chemicals.